14. (amended) The spinal fixation apparatus defined in claim [13] ~~12~~ 13 wherein each of said first longitudinal rod and said second longitudinal rod includes a right angle bend.

15. (amended) The spinal fixation apparatus defined in claim [13] ~~12~~ 13 wherein said stem clamp comprises a clamp body having an upper jaw and a lower jaw with a lateral throughbore passing between one edge of said clamp body, said throughbore telescopically <u>selectively</u> receiving said first [to] <u>and</u> second longitudinal rods, said clamp body including a transverse throughbore passing orthogonally through said upper jaw and said lower jaw with the portion of said transverse throughbore through said lower jaw having threads therein, said clamp body including a stem extending orthogonally therefrom, said stem clamp including a bolt means for threadedly engaging said threads to bring said upper jaw toward said lower jaw and constrict said lateral throughbore thereby securing said stem clamp to said longitudinal rod.

13 17. (amended) [The spinal fixation apparatus defined in claim 16 wherein] A spinal fixation apparatus for implantation on a spine comprising:

a first longitudinal rod for placement on the spine at one side of and generally parallel to the spinous process of the spine;

a second longitudinal rod for placement on the spine at the other side of and generally parallel to the spinous process of the spine;

a plurality of stem clamps mounted to said first longitudinal rod and said second longitudinal rod;

a plurality of C-clamps mounted to said stem clamps and to said first longitudinal rod and to said second longitudinal rod, said C-clamp comprising a clamp body having an upper jaw and a lower jaw with a lateral throughbore passing between said upper jaw and said lower jaw, said clamp body having a transverse throughbore passing orthogonally through said upper jaw and said lower jaw with the portion of said transverse throughbore in said lower jaw having threads therein, said C-clamp [includes] further including engagement means for engaging said C-clamp with said bone screw, said bone screw comprising a bolt head at a proximal end and a tip at a distal end, said bone screw having a threaded shaft between said proximal end and said distal end with said threaded shaft having a threaded, diametrally enlarged shoulder adjacent said bolt head and a threaded, diametrally reduced screw body

between said shoulder and said tip, the thread pitch for said threaded, diametrally enlarged shoulder being identical to said threaded, diametrally reduced screw body, said threaded, diametrally enlarged shoulder threadedly engaging said threads in said transverse throughbore in said lower jaw of said C-clamp thereby providing said engagement means for said C-clamp;

a plurality of bone screws mounted to said C-clamps, said bone screws being operable to secure said C-clamps to the spine; and

at least one cross-link plate interconnecting said first longitudinal rod to said second longitudinal rod.

---

17 ~~18~~. 13 (amended) The spinal fixation apparatus defined in claim [13] ~~17~~ wherein said stem clamp includes a lower jaw and an upper jaw, said lower jaw having an angular offset from said upper jaw, said angular offset being within the range on the order of about one to ten degrees.

19 ~~20~~. 13 (amended) The spinal fixation apparatus defined in claim [13] ~~17~~ wherein said bone screw comprises a screw having a head at a proximal end and a tip at a distal end, said screw having a diametrally enlarged shoulder adjacent said head, said shoulder having a first set of threads, said screw including a shaft extending between said shoulder and said tip, said shaft being diametrally smaller than said shoulder and having a second set of threads, said second set of threads having the same thread pitch as said first set of threads.

20 ~~22~~. (amended) The spinal fixation apparatus defined in claim [13] ~~17~~ 13 wherein said C-clamp includes a bone pin for temporarily mounting said C-clamp to the spine prior to inserting said bone screw, said bone pin having a handle and a pin extending therefrom, said pin having a reduced diameter to pass through said C-clamp and into the bone.

23 ~~24~~. (amended) The method defined in claim [23] ~~25~~ 22 wherein said fabricating step [comprises] <u>includes</u> preparing said C-clamp as a pair of opposed jaws having a lateral throughbore therethrough for slideably receiving said longitudinal rod or said stem of said stem clamp, said preparing step including forming a transverse throughbore through said upper jaw and said lower jaw and creating a set of threads in the lower jaw portion of said transverse throughbore.

22

25. (amended) [The method defined in claim 23 wherein] A method for providing fixation of a spine comprising the steps of:

obtaining a longitudinal rod;

preparing a plurality of stem clamps with stems extending therefrom;

mounting said stem clamps to said longitudinal rod;

fabricating a plurality of C-clamps, said fabricating step [includes] including forming said plurality of bone screws with a first threaded section and a second threaded section, said first threaded section having a smaller diameter sufficient to pass through said transverse throughbore in said C-clamp, said second threaded section threadedly engaging said set of threads in said C-clamp thereby selectively clamping said C-clamp to said longitudinal rod and said stem;

affixing said C-clamps to said longitudinal rod and to said stems of said stem clamps;

forming a plurality of bone screws;

securing said C-clamps to a spine with said bone screws; and

tightening said stem clamps and said C-clamps thereby providing spinal fixation with said longitudinal rod.

26. (amended) The method defined in claim [23] 25 wherein said obtaining step includes providing a second longitudinal rod and affixing said second longitudinal rod to the spine along with said longitudinal rod using said stem clamps, said C-clamps, and said bone screws.

29. (amended) The method defined in claim [23] 25 wherein said forming step includes preparing threads on said bone screw for securely engaging bone with said threads, said preparing step including shaping said threads with a generally flat surface orthogonal to the axis of said bone screw, said flat surface being oriented to the outer surface of the bone as said bone screw is inserted into the bone.

30. (amended) The method defined in claim [23] 25 wherein said affixing step includes obtaining a plurality of bone pins and ascertaining the placement of said longitudinal rod, said stem clamps, and said C-clamps prior to said securing step by mounting said C-clamps to the spine with said bone pins.

Please cancel claims 13 and 16 without prejudice.

REMARKS

Claims 14, 15, 17, 19, 20, 22, 24-26, and 30 have been amended by this paper to more particularly point out and distinctly claim